

The Rhine: An Eco-Biography, 1815–2000. By *Mark Cioc*. Seattle: University of Washington Press, 2002. xiii + 252 pp. Illustrations, figures, maps, bibliography, notes. Cloth, \$29.95. ISBN 0-295-98254-3.

Reviewed by Christoph Bernhardt

European historiography contains only a handful of river biographies, among them Lucien Febvres' famous book *Le Rhin*, about the Rhine, which was published in 1935 with the intention of quelling the furor aroused by the competing nationalisms of the French and the Germans. Marc Cioc's biography of the same river opens a new perspective, focusing on the environmental history of this most important European stream. In seven chapters the book traces the changing interests and paradigms that transformed the Rhine into an industrial river. Cioc's introduction reveals at the outset his very modern, fresh approach. While concentrating on the German Rhine, he adopts a river-basin-oriented, cross-border European perspective. In postulating the minor role of national rivalries in the river's history (pp. 5, 9), he manages to rise above the national bias that still dominates most studies of the subject. He brings to the task a careful, critical attitude, reconstructing the chronology of long-term environmental degradation based on the highest level of scholarly research and avoiding the trap of simply recounting a sad story of linear decline.

The first chapter, which is a broad survey of published sources and literature, outlines the hydrologic, social, and political framework of the river's transformation after 1815. It presents detailed information on the large urban conglomerates, the transport volumes, and the major industrial enterprises that make the Rhine "a classic example of a 'multi-purpose' waterway" (p. 23). The reader learns the main geomorphologic and hydrologic facts, such as the major subdivisions, elevation profile, and hydrologic regime of the river. The figures, maps, and graphs, all of superior quality, combine to produce a compact and readable scholarly introduction to the river's environmental history. Well-selected caricatures and sketches illustrate the river's changing images and the variety of historical discourses it has inspired.

The first section describes the powerful Rhine commission, the water engineers, and the coal and chemical industry as the actors largely responsible for transforming the river throughout the nineteenth and most of the twentieth century. Cioc then delves into the consequences of long-term environmental degradation, particularly the diminishment of biodiversity and the reduction of flood plains. The final chapter reports on the river's remarkable restoration, beginning in 1945 and continuing until today.

Cioc perhaps overemphasizes the role of the Rhine commission. This supranational institution and court of the riparian states supervised the standardization of navigational regulations and the security of shipping and engineering projects. Cioc underlines "how well the Rhine Commission accomplished its goal of turning the Rhine into an autobahn of global commerce and trade" (p. 73). His main argument, delineating "simplifications on a grand scale" (p. 45), reconstructs the way the commission and the riparian states designed the river to function as a navigational channel and water source.

Cioc carefully examines the work of two generations of water engineers, particularly the "Tulla rectification project," which reduced the length of the upper part of the river by eighty-two 82 kilometers between 1817 and 1876. He surveys other minor projects in the Alps and the downstream territories and tracks the geomorphologic transformation of the river up to the construction of the French lateral canal in the twentieth century. The societal impact of the influx of riparian "farms, factories and cities" that filled the Rhine Valley (p. 74) and the reasons for the increasing danger of flooding that was foreseen by early critics are covered as well.

The author attaches great importance to the coal industry and even more to the impact of the chemical industry on the Rhine, an area that leads the world in chemical production (pp. 117, 142). A detailed explanation that can be read as an introduction to the environmental history of early chemical science and production reveals the effects of the acid, alkali, potassium, nitrate, and effluvia of dying industries on the river. The effects of everyday water pollution outstrip the impact even of catastrophic accidents like the one that occurred at the Sandoz chemical plant in Bale in 1988 (p. 110). The debates on the Prussian Water Act (passed in 1913) demonstrated the ability of the chemical industry to protect itself from meaningful legislative sanctions, with the effect that massive pollution of the Rhine and its tributaries continued.

The disastrous consequences of the continuing environmental insults to the river became apparent in the first half of the twentieth century. In Chapter Six, we read about the loss of species, including birds, amphibians, and reptiles. The fish population continued to decline, despite the signing of international treaties, such as the “Salmon convention” of 1885. Here, as in other cases, Cioc carefully separates the true perpetrators of environmental damage to, for example, the salmon, pointing out that dredgers and dams, rather than, as is generally argued, phenols, are the real culprits.

In Chapter Seven, “A River Restored?” Cioc demonstrates his familiarity with current debates on recent policies affecting the Rhine. He reports that new attitudes toward the river after 1945, added to the changing role of chemical industry, the decline of coal industry, and the rise of the environmental movement of the 1970s, opened the way for environmental reforms. The treaties and plans enacted since the 1970s have had an “enormously positive impact on the entire Rhine basin” (p. 183) and have brought about an environmental regeneration of the river, symbolized by the return of salmon as far as the upper Rhine tributary Ill.

In his conclusion, Cioc interprets the river’s long-term decline as an unintended consequence that none of the major actors could have foreseen. He emphasizes that today’s efforts can reverse only a fraction of the earlier damage (p. 205), concluding on a sceptical, but moderately optimistic note. I do not completely agree with all of his arguments, particularly the suggestion that 1815 represented a sharp break in the river’s history. I also think he underestimates the impact of preindustrial changes and the part played by urbanization in transforming the river. Moreover, Cioc’s view that corporate interests predominated in this environmental historiography underestimates the culturally based social agreement between industry and the populations living along the Rhine. But these are minor objections, meant only to suggest that this excellent book points to areas meriting further scholarly research and debate.

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Jahrhunderts] (*editor*, 2001), and “*The Correction of the Upper Rhine in the Nineteenth Century: Modernizing Society and State by Large-Scale Water Engineering*,” in *Water, Culture, and Politics in Germany and the American West* (2001).